



1/8

SEQUENCE LISTING

4132  
<110> Gaudet, Daniel  
Rioux, John D.  
Arsenault, Steve  
Hudson, Thomas J.  
Daly, Mark J.

<120> Glycerol As A Predictor of Glucose  
Tolerance

<130> 2825.1022-003

<140> US 09/694,088

<141> 2000-10-20

<150> US 60/161,141

<151> 1999-10-22

<160> 19

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 60

<212> DNA

<213> Unknown

<220>

<223> Partial nucleic acid sequence of the GK gene  
comprising a polymorphic site at nucleotide  
position 13 of exon 3

<400> 1

atgccttctt ttgtcaaaga tgggtggaac argaccctaa ggaaattcta cattctgtct 60

<210> 2

<211> 48

<212> DNA

<213> Unknown

<220>

<223> Partial nucleic acid sequence of the GK gene  
comprising a polymorphic site at nucleotide  
position 17 of intron 8

<400> 2

taatggtaaa aaacaaacaa amaaacaaaa aacacaccaa aaaaccaa

48

<210> 3

<211> 94

<212> DNA

<213> Unknown

&lt;220&gt;

<223> Partial nucleic acid sequence of the GK gene  
comprising a polymorphic site at nucleotide  
position 29 of exon 10

&lt;400&gt; 3

ttcattctcc cttcaaccat aggtatggaa caggatgttt cttactatgt ratacaggcc 60  
ataaggttgg tttttaataa aaatgattaa gtca 94

&lt;210&gt; 4

&lt;211&gt; 58

&lt;212&gt; DNA

&lt;213&gt; Unknown

&lt;220&gt;

<223> Partial nucleic acid sequence of the GK gene  
comprising a polymorphic site at nucleotide  
position 22 of intron 12

&lt;400&gt; 4

gaaattgggtg agtgtgttct aacaaaagkt tagaaaatct gaaaaatgac acatttca 58

&lt;210&gt; 5

&lt;211&gt; 8079

&lt;212&gt; DNA

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Glycerol kinase gene

&lt;221&gt; misc\_feature

&lt;222&gt; 2214, 2215, 2216, 2217

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 5

ggttcagcgg acgcgcgcgg cctcgggtctc tggactcgtc acctgcccct cccctccccg 60  
ccgccgtcac ccaggaaacc ggccgcaatc gccggccgac ctgaagctgg tttcatggca 120  
gcctcaaaga aggcagtttt ggggccattg gtggggcgcg tggaccaggg caccagttcg 180  
acgcgctttt tggtagcccc ggggtgacat gtgaagaggc gctgagctgt aaaacgacgg 240  
ccagtcaccc ttgatatctg cctgcatttt tacattaata ttacaatatc tttttcaggt 300  
tttcaattca aaaacagctg aactacttag tcatcatcaa gtagaaataa aacaagagtt 360  
cccaagagaa gggtagtgtt cctaacttaa tatgtaaaga cacattatgt ttgttagtcc 420  
atctcaccca acttgcccca atgccttctt ttgtcaaaga tgggtggaac argaccctaa 480  
ggaaattcta cattctgtct atgagtgtat agagaaaaca tgtgagaaac ttggacagct 540  
caatattgat atttccaaca taaaaggat tttagtagaa tattttaccc acatgtaaaa 600  
cgacggccag ttgagagctg ttttcctgaa gtagtcccta cttgttaaat ttttgacttc 660  
cttctgttta actttctctt taaagctatt ggtgtcagca accagaggga aaccactgta 720  
gtctgggaca agataactgg agagcctctc tacaatgctg tgggtaagct gtcatgcatg 780  
gatgtcaa at gtagggcctt tcttcacatt gcaatgtaaa acgacggcca gttccttgat 840  
agtgatttca gtaagttctt atttttttaa atgaagtttt tcatgtatat tattttattt 900  
tggctctatag tgtggcttga tctaagaacc cagtctaccg ttgagagtct tagtaaaaga 960  
attccaggaa ataataactt tctcaaggta agaatttctt cagaagtata ctataagaat 1020  
gtttcttttt ttaaaaaaag tttgcagatt tcatagaaa gaagcatctt atgggtacaat 1080  
agttatttga tacaatttat agaacttttt tcccggataa ttgaggcctg taaaacgacg 1140  
gccagtttct tttgtttggg ggttttgggt taaactgtta cacttttcat ttgctaactg 1200  
aacttcacaa ctgcttttag tccaagacag gccttccact tagcacttac ttcagtgcag 1260  
tgaaacttcg ttggctcctt gacaatgtga gaaaagttca aaaggccgtt gaagaaaaac 1320  
gagctctttt tgggactatt gattcatggc ttatttgggt atgtttaaat ataatggata 1380  
tatggagaat tttttcagaa attttttcta gactgccttg cctattgttt ctactagcag 1440

gtcagacttt ttaattagca tgtaaaacga cggccagttg tgctctgctg attatgaccc 1500  
 ttaacaatat gtaaatataa ttgccaataa gtacaaatgt aacctgattt ttttactctg 1560  
 cctagagttt gacaggagga gtcaatggag gtgtccactg tacagatgta acaaatgcaa 1620  
 gtaggactat gcttttcaac attcattctt tgggaatggga taaacaactc tgcgagtaag 1680  
 ttctgttttg ctctaaatat agttttccca atacactacc tatttataac cgaaatctta 1740  
 atattttcag atgtcagtgg agcatgtaaa acgacggcca gtacagtgtt aaatacccaa 1800  
 tcttcttggt tttcagattt tttggaattc caatggaaat tcttccaaat gtccggagtt 1860  
 cttctgagat ctatggccta atggtaaaaa acaaacaaam aaacaaaaaa cacacaaaaa 1920  
 aacacaaaaa caaacaaaaa aaaacctaatt aattaaagtt tttttattac aaaacaagtt 1980  
 tactattcat aattcaaaag tcaactgtgt tatgttttgt gacttaaaaa ctttacagtc 2040  
 ctttttataa tggaaagctg gggccttgga aggtgtgcca atatctgggg taagtttcat 2100  
 caccaagtggt ctccccatcc ccacccttcc ccattgttat gctttcctcc tcttagttca 2160  
 tcagtgtgcc tcttttttaa ctagggaata caagtaaaag ttgcaaaatt ggannnnct 2220  
 tgtctttaca tgtcactctg tgggccattg agaactttt gaataaatta attttaactc 2280  
 tcccttccca taccatttat cttacattat acaaatgggt attaacaatt ggggaaaaatg 2340  
 gccaaatgga gaaaatgcaa ggaaatagac agttcattct ttgataaata aaaaatgaaa 2400  
 aataaatcct atggctcttc taaaaagaaa gttaatacta ttgtattagt cagtgttctt 2460  
 tattgtcatt tatactttca gtgttttagg gaccagtctg ctgcattggg gggacaaatg 2520  
 tgcttccaga ttggacaagc caaaaatacg tgagttaaag aaacagactt aaaaaccaat 2580  
 gctgttttgt tttttctact tgggtgctttg aataaggaaa agcttttgaa gttcatccag 2640  
 gatgaaaatc aatagcttaa tagctccaat atgcatatat acacttttta ccattttttt 2700  
 atatctttta ataaaaatac aatggcata tatatgcaca ctgatgaagc ttataaagac 2760  
 ctaaaattgt aggtctggcg cgggtatttg ctttcaataa aattgtcttc tattcattct 2820  
 cccttcaacc ataggtatgg aacaggatgt ttcttactat gtratacagg ccataagggt 2880  
 gggtttttta attaaaaaat tgatttaaaa gtctaagttc atctaaataa tgcttgaaca 2940  
 taatttacta ttaacaact ttttagtctt agcttttact taatctttat cagggtttta 3000  
 ttttagagctc aatacaaaat ttgaatcggt ctaataagaa ccattttaga ctctttgaat 3060  
 tttatatgtg tgtttttaat tgtgtctggg ggaatctag actgagacct catcaaattc 3120  
 ttaatgcaa tctaatttga aacaaggaat aaacttttta tacagcttaa atgtgttctt 3180  
 aattctgac gttttgactg taaggattta ttttaaaaat tggtttattg attgcattat 3240  
 tttgtacctt tgttatttta acttttaaaa aagtttctca tgttatcttt tcattttcca 3300  
 ctactgaaat cttttttttt tctttcttac agtgtgtatt ttctgatcat ggccttctca 3360  
 ccacagtggc ttacaaactt ggcagagaca aaccagtata ttatgctttg gaagtaagtt 3420  
 ctttttaate aatatggata atatgacaaa cattcaaagc taataaaaaat cacagagttt 3480  
 tctaacactt ttctggtaaa tcttaataca gaggactcaa aaagttctgc tttcttgga 3540  
 tttgattgag ttgaaggaac ctgaaactga tctgggtgtc aggactcaca ggagacctg 3600  
 attagattgg ttctcagtt cttatgccaa ttaatcatgt caccttaggc atattacttg 3660  
 agagctctac aatgtgaggt tttttttttt tttatctcta aagtttaac ggattaacgt 3720  
 gctctctaac atttctttca tcttgaaaat tctttgattt tataaataaa atgctccagt 3780  
 gttccaaaga gaacctggg cacaaatagg cagaacaact ctcttcactt gtctcctcat 3840  
 aaaaataaat tttgtgtaac attttgatat agaaaagaaa gcgacgagat ttatgccact 3900  
 tactactgga aacatttggt tcaaacattt ttgtatgtta tagtaggaat atgccagct 3960  
 aagcctatat tttattagtg acttagataa aactatgttt gtattagaag acctagttta 4020  
 catatttgct ggagtctcaa aatggaaact gaattctgtc catctgattg tgtcatacac 4080  
 agaatatgct caataaaaaa cttggatagt gataaaatat attctgtctt gaattccttt 4140  
 ttttctttag ggttctgtag ctatagctgg tgctgttatt cgctggctaa gagacaatct 4200  
 tgggaattata aagacctcag aagaaattgg tgagtgtgtt ctaacaaaag kttagaaaat 4260  
 ctgaaaaatg acacatttca gtattttatc tctgcaaagt aaatatcgat gctttgccc 4320  
 aaatgtgac cagttgtgtg atttttggtt tgttttgttt taatgttaga aaaacttgct 4380  
 aaagaagtag gtacttctta tggctgctac ttcgtcccag cattttcggg gtaatatgca 4440  
 ccttattggg agcccagcgc aagagggtta gtattgaaaa tatggagtgc ttttggggat 4500  
 cttgatttat tgtaaaacga cggccagttg attatgtcca attttctctt cctggacatt 4560  
 tctgtctacc aaatttgacc ttttcatatt tgagatattt caaattgatt ggtttatatc 4620  
 attctaactt gaaaatcttt gtgcgtattt taggataat ctgtggactc actcagttca 4680  
 ccaataaatg ccatattgct tttgtgcat tagaagctgt ttgtttccaa actcgagagg 4740  
 taacaaatat gggcctgttt tcttgtactt agttcacttt tatcactctt aagttatatg 4800  
 ttaacacccg agatttatc agtactgaaa atgtagttta tcaaataatta aggtgccta 4860  
 aatactaate taaatataag cagggttttc cccctttttc cagctgtcat taccttctaa 4920  
 gttcctgttc cctgtcaggc actgggaaat ttatggttgt ggggaggctg agtggcacac 4980

attaggcaaa ggaaacagca caaacatagg catcaaggca gaaaaacagg gtgcaaaata 5040  
 gagttgtata gcttagctga atatcaaggt gaatgcagag gtgtagtgag agaaaaggtt 5100  
 ggctgtgacc agatcaaaga gggcttagaa gaccagaata agaagtctca atttattcca 5160  
 taggctcttg gaagctcttg agagtttctg agtggaggat tgccattttc agagatgtta 5220  
 ctatgaaata gatttataac attaattgca ctggtttatt taagattttg gatgccatga 5280  
 atcgagactg tgggaattcca ctcagtcatt tgcaggtaga tggaggaatg accagcaaca 5340  
 aaattcttat gcagctacaa gcagacattc tgtatatacc agtaggttag taagtcttca 5400  
 ttcctttaaa ctcccagagt aatgtttctt gtggaataac tagttctttg ggtgtaaaac 5460  
 gacggccagt tcccagagta atgtttcttg tggaaataact agttcttttg gcatatgtaa 5520  
 ccacaaagat attgatggaa ctctctctcc tcagtgaagc cctcaatgcc cgaaaccact 5580  
 gcactgggtg cggctatggc ggcaggggct gcagaaggag tcggcgtatg gagtctcgaa 5640  
 cccgaggatt tgtctgccgt cacgatggag cggtttgaac ctgagattaa tgcggagggt 5700  
 acatttaaag aatgaaatgt tcagtgatat actgtgaaaa cgaccttagt gcacgggagt 5760  
 tttgttttcc tgtttagtta aaagttaagg aaccaagtaa aatagtaaat gttatcattg 5820  
 cagattcggc tgccaagcat attgggcttt actgaataaa tgtgaatgag agaaatcggt 5880  
 gcttatcaaa agaacttcta aaatcacttt ttaaaaatca tttgtaaaac gacggccagt 5940  
 agccctactg cagtttaatg tgtcaataat ttgtcaagaa tgttgagtga tcataagtat 6000  
 ggtactaaga acatctcagc aaactacctt tcgttatgtg tttttcttac cttctaattc 6060  
 tagaaagtga aattcggttat tctacatgga agaaagctgt gatgaagtca atgggttggg 6120  
 ttacaactca atctccagaa agtggtaaaa atgtttttgt ttattattgt cacattttct 6180  
 tagtatatta aatagttatt taagtatcta ggcatttaca catagccagg ctgctctgaa 6240  
 gaaaagcatt atcatatgct cagagattct gacattttga aaacacttta aagttctaaa 6300  
 cacaaaatgt aaattatcag gtgttgtaaa acgacggcca gttgggttgg tttgtctgac 6360  
 tggaatctct tctgcttgga tgaccacagg tgacctagt atcttctgta gtctgccctt 6420  
 gggctttttt atagttagta gcatggtaat gttaatcgga gcaaggtaca tctcaggtta 6480  
 gttactcttt aaattagaca actctattag ttagctttta tgttttcgtg tataacttag 6540  
 cagaaatfff tcagtgtttt tcattctttc tgtgtctagg aagctggaaa atcaattaaa 6600  
 ggtctaatta gttagaccaa ttaatctttg ggggcagtta gaagtaagaa ctgtgactct 6660  
 gcttaccctt tttaaatfff taatgtgatg acttctttaa gagggactac attctgctgt 6720  
 cagctgcagc aataagcaaa agtgaaaaata ctaattttta aatgacagga ctttcagact 6780  
 gactgctgaa agttaaagta tacttaaaat tactggctta aatggaaatg atgcttctta 6840  
 ttctgtatgt tcccatgaaa gtgaaactta aaaaaaaat tcatgattag ggtttcatga 6900  
 aaaggccttg tttctatgaa aattgagaca ggttgcactc ctctaagcta aaagatgggc 6960  
 tatgtgtcta gagtcttaga cttctaaaat gcatgtggtc actatatgta ggttatctct 7020  
 tcggtgacat acactgcaat ttgagagggc tggaaattgt ttgccttggg aaacgattag 7080  
 caacagtggc aatatttgggt aattttggaa ttggccctgt ttgttgcaat ttaattgtga 7140  
 ggcattgatt agaaatcata tggactttct agcttaataa atgattgaat catctgcatt 7200  
 gctttaactc ctgaattgta tgcattgatt attgacatat atggtttttg tttcccatct 7260  
 caggatttcc ataaaaccta ccaactcatg gattcccaag atgtgagctt tttacataat 7320  
 gaaagaaccc agcaattctg tctcttaatt caatgacact attcatagac tttgatttta 7380  
 tttataagcc acttgctgca tgacctcca agtagacctg tggcttaaaa taaagaaaat 7440  
 gcagcaaaaa gaatgctata gaaatatttg gtgggttttt ttttttttaa acatccacag 7500  
 ttaagggttg gccagctacc tttggggctg accccctcca ttgccataac atcctgctcc 7560  
 attccctcta agatgttaga agaattogga tccttaccat tggaaatctc catcgaacat 7620  
 actcaaacac ttttggaaca ggatttgagt ctctgcatga catatacttg attaaaaggt 7680  
 tattactaac ctgttaaaaa tcagcagctc tttgctttta agagacaccc taaaagtctt 7740  
 cttttctaca tagttgaaga cagcaacatc ttcactgaat gtttgaatag aaacctctac 7800  
 taaattatta aaatagacat ttatgtttct cacagcttgg atatttttct gaaaagtatt 7860  
 ttgcaaaaaac tgaaatcctt cagatgtttt ccatggctcc actaattata atgactttct 7920  
 gtctgggtct tataggaaaa gatactttct tttttcttcc atctttcctt tttatatttt 7980  
 ttactttgta tgtataacat acatgcctat atattttata cactgagggg gcccatttat 8040  
 aaataaagag cacattatat tcagaaggtt ctaacaggg 8079

<210> 6  
 <211> 41  
 <212> PRT  
 <213> Unknown

&lt;220&gt;

&lt;223&gt; GK N288D mutant

&lt;400&gt; 6

Phe	Gln	Ile	Gly	Gln	Ala	Lys	Asn	Thr	Tyr	Gly	Thr	Gly	Cys	Phe	Leu
1				5					10					15	
Leu	Cys	Asp	Thr	Gly	His	Lys	Cys	Val	Phe	Ser	Asp	His	Gly	Leu	Leu
		20						25					30		
Thr	Thr	Val	Ala	Tyr	Lys	Leu	Gly	Arg							
		35					40								

&lt;210&gt; 7

&lt;211&gt; 41

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 7

Phe	Gln	Ile	Gly	Gln	Ala	Lys	Asn	Thr	Tyr	Gly	Thr	Gly	Cys	Phe	Leu
1				5					10					15	
Leu	Cys	Asn	Thr	Gly	His	Lys	Cys	Val	Phe	Ser	Asp	His	Gly	Leu	Leu
		20						25					30		
Thr	Thr	Val	Ala	Tyr	Lys	Leu	Gly	Arg							
		35					40								

&lt;210&gt; 8

&lt;211&gt; 41

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Rat

&lt;400&gt; 8

Phe	Gln	Asp	Gly	Gln	Ala	Lys	Asn	Thr	Tyr	Gly	Thr	Gly	Cys	Phe	Leu
1				5					10					15	
Leu	Cys	Asn	Thr	Gly	His	Lys	Cys	Val	Phe	Ser	Glu	His	Gly	Leu	Leu
		20						25					30		
Thr	Thr	Val	Ala	Tyr	Lys	Leu	Gly	Arg							
		35					40								

&lt;210&gt; 9

&lt;211&gt; 41

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mouse

&lt;400&gt; 9

Phe	Gln	Asp	Gly	Gln	Ala	Lys	Asn	Thr	Tyr	Gly	Thr	Gly	Cys	Phe	Leu
1				5					10					15	
Leu	Cys	Asn	Thr	Gly	His	Lys	Cys	Val	Phe	Ser	Glu	His	Gly	Leu	Leu
		20						25					30		
Thr	Thr	Val	Ala	Tyr	Lys	Leu	Gly	Arg							
		35					40								

<210> 10  
 <211> 39  
 <212> PRT  
 <213> E. coli

<400> 10  
 Val Lys Glu Gly Met Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Met  
 1 5 10 15  
 Leu Met Asn Thr Gly Glu Lys Ala Val Lys Ser Glu Asn Gly Leu Leu  
 20 25 30  
 Thr Thr Ile Ala Cys Gly Pro  
 35

<210> 11  
 <211> 39  
 <212> PRT  
 <213> Pseudomonas aeruginosa

<400> 11  
 Val Glu Pro Gly Gln Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Leu  
 1 5 10 15  
 Leu Met His Thr Gly Asp Lys Ala Val Lys Ser Thr His Gly Leu Leu  
 20 25 30  
 Thr Thr Ile Ala Cys Gly Pro  
 35

<210> 12  
 <211> 39  
 <212> PRT  
 <213> Enterococcus casseliflavus

<400> 12  
 Phe Glu Lys Gly Met Ile Lys Asn Thr Tyr Gly Thr Gly Ala Phe Ile  
 1 5 10 15  
 Val Met Asn Thr Gly Glu Glu Pro Gln Leu Ser Asp Asn Asp Leu Leu  
 20 25 30  
 Thr Thr Ile Gly Tyr Gly Ile  
 35

<210> 13  
 <211> 41  
 <212> PRT  
 <213> Haemophilus influenzae

<400> 13  
 Val His Ala Gly Gln Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Met  
 1 5 10 15  
 Leu Leu His Thr Gly Asn Lys Ala Ile Thr Ser Lys Asn Gly Leu Leu  
 20 25 30  
 Thr Thr Ile Ala Cys Asn Ala Lys Gly  
 35 40

<210> 14  
 <211> 39  
 <212> PRT

## &lt;213&gt; Bacillus subtilis

&lt;400&gt; 14

Phe Glu Glu Gly Met Gly Lys Asn Thr Tyr Gly Thr Gly Cys Phe Met  
 1 5 10 15  
 Leu Met Asn Thr Gly Glu Lys Ala Ile Lys Ser Glu His Gly Leu Leu  
 20 25 30  
 Thr Thr Ile Ala Trp Gly Ile  
 35

&lt;210&gt; 15

&lt;211&gt; 41

&lt;212&gt; PRT

## &lt;213&gt; Saccharomyces cerevisiae

&lt;400&gt; 15

Tyr Lys Pro Gly Ala Ala Lys Cys Thr Tyr Gly Thr Gly Cys Phe Leu  
 1 5 10 15  
 Leu Tyr Asn Thr Gly Thr Lys Lys Leu Ile Ser Gln His Gly Ala Leu  
 20 25 30  
 Thr Thr Leu Ala Phe Trp Phe Pro His  
 35 40

&lt;210&gt; 16

&lt;211&gt; 41

&lt;212&gt; PRT

## &lt;213&gt; Mycoplasma genitalium

&lt;400&gt; 16

Thr Glu Pro Gly Met Val Lys Asn Thr Tyr Gly Thr Gly Cys Phe Val  
 1 5 10 15  
 Leu Met Asn Ile Gly Asp Lys Pro Thr Leu Ser Lys His Asn Leu Leu  
 20 25 30  
 Thr Thr Val Ala Trp Gln Leu Glu Asn  
 35 40

&lt;210&gt; 17

&lt;211&gt; 39

&lt;212&gt; PRT

## &lt;213&gt; Enterococcus faecalis

&lt;400&gt; 17

Phe Glu Pro Gly Met Val Lys Asn Thr Tyr Gly Thr Gly Ser Phe Ile  
 1 5 10 15  
 Val Met Asn Thr Gly Glu Glu Pro Gln Leu Ser Lys Asn Asn Leu Leu  
 20 25 30  
 Thr Thr Ile Gly Tyr Gly Ile  
 35

&lt;210&gt; 18

&lt;211&gt; 41

&lt;212&gt; PRT

## &lt;213&gt; Mycoplasma pneumoniae

&lt;400&gt; 18

Val	Glu	Pro	Ala	Met	Val	Lys	Asn	Thr	Tyr	Gly	Thr	Gly	Cys	Phe	Met
1				5					10					15	
Leu	Met	Asn	Ile	Gly	Asn	Glu	Leu	Lys	Tyr	Ser	Gln	His	Asn	Leu	Leu
		20						25					30		
Thr	Thr	Val	Ala	Trp	Gln	Leu	Glu	Asn							
		35						40							

&lt;210&gt; 19

&lt;211&gt; 41

&lt;212&gt; PRT

&lt;213&gt; Synechocystis PCC6803

&lt;400&gt; 19

Asp	Arg	Pro	Gly	Leu	Leu	Lys	Cys	Thr	Tyr	Gly	Thr	Gly	Ala	Phe	Leu
1				5					10					15	
Val	Ala	Asn	Thr	Gly	Gln	Thr	Val	Thr	Arg	Ser	Gln	His	Arg	Leu	Leu
		20						25					30		
Ser	Thr	Val	Ala	Trp	Thr	Gln	Thr	Asn							
		35						40							